TINYAKOV, G.G.; TINYAKOV, Yu.G.

Spontaneous chromosome mutations under normal and pathological conditions. Dokl.AN SSSR 134 no.1:187-190 S '60.
(MIRA 13:8)

1. Moskovskiy tekhnologicheskiy institut myasnoy i molochnoy promyshlennosti. Predstavleno akad. I.I.Shmal'gauzenom.
(Chromosomes)

TINYAKOV, G.G.; GRANIKOV, D.A.; MIKHEYEVA, G.A.

Microstructure of hard rennet cheeses. Izv. vys. ucheb. zav.; pishch. tekh. no.4:68-74 '61. (MIRA 14:8)

1. Moskovskiy tekhnologicheskiy institut myasnoy i molochnoy promyshlennosti, kafedra tekhnologii moloka i molochnykh produktov i kafedra anatomii i gistologii.
(Cheese)

TINYAKOV, G.G.; TINYAKOV, Yu.G.

Origin of cancer in the light of proliferative variability of normal cells. Dokl. AN SSSR 141 no.4:998-1001 D '61. (MIRA 14:11)

1. Moskovskiy tekhnologicheskiy institut myasnoy i molochnoy promyshlennosti i Institut terapii Akademii meditsinskikh nauk SSSR. Predstavleno akademikom I.I. Shmal'gauzenom.
(CANCER)

42683

S/747/62/000/000/004/025
D268/D307

27.1220

AUTHORS: Arsen'yeva, M. A., ~~Tinyakov, G. G.,~~ Wang Ang-ch'ih, Ma Hsiu-ch'uang and Chang Chun-shu

TITLE: Cytogenetic radiosensitivity of sexual cells in monkeys and mice at small and other dose levels

SOURCE: Radiatsionnaya genetika; sbornik rabot. Otd. biol. nauk AN SSSR. Moscow, Izd-vo AN SSSR, 1962, 50-62

TEXT: In continuation of earlier work (Trudy mezhd. Konf. po mirnomu ispol'zov. atomnoy energii, M., 385-396, 1959) male monkeys (Macaca mulatta: 16 5 - 14 year-old individuals) and 2 - 3 month-old white mice were wholebody irradiated with single exposures to x rays at 10 - 400 r for the former and 10 - 600 r for the latter and were also irradiated with Co^{60} gamma-rays at 10 and 50 r. Irradiation increased the chromosome reorganization rate in germinal cells in both subjects, the average rate being 0.115 and 0.057% in monkeys and mice respectively for 1 r at 10 days after exposure. Cytological and

Card 1/2

histological analyses of testes at different times after irradiation showed disruption of spermatogenesis in monkeys after 10 r, temporary sterility at 30 days following 50 r, and at 20 days following 200 r. Temporary sterility was detected in mice at 20 days after 200 r. Results showed higher radiosensitivity in the germinal epithelium of monkeys than in mice. The rate of chromosome reorganization in monkeys at 10 days is thought to double at 3.8 r, and that in mice at 9.3 r, showing that the radiosensitivity of the germinal epithelium in monkey is 2 - 2 1/2 times higher than that in mice. There are 9 figures and 2 tables.

ASSOCIATION: Institut biologicheskoy fiziki AN SSSR, Moskva (Institute of Biological Physics AS USSR, Moscow) and Institut biologicheskoy fiziki AN KNR, Pekin (Institute of Biological Physics AS CPR, Peking)

BEM, Rudolf [Böhm, Rudolf]; PLEVA, Vladimir; VOL'SHANSKIY, M.I. [translator]; TIKHYAKOV, G.G., doktor biol. nauk, prof. red.; TSIPERSON, A.L., red.

[Microscopy of meat and raw material of animal origin. Translated from the Czech] Mikroskopiia miasa i syr'ia zhivotnogo proiskhozhdeniia. Izd.2., perer. i dop. Moskva, Pishchevaia promyshlennost', 1964. 334 p. (MIRA 18:3)

TINYAKOV, G.G.; BULOCHNIKOVA, Ye.K.

Mitotic and chromosome-aberrational reaction of lymphatic ganglia caused by sarcoma 45. Dokl. AN SSSR 165 no.3:683-685 N '65. (MIRA 18:11)

1. Moskovskiy tekhnologicheskiy institut myasnoy i molochnoy promyshlennosti. Submitted May 20, 1965.

TINYAKOV, G.G.

Pairing of chromosomes of the salivary gland in Drosophila funebris. Biul. MOIP. Otd. biol. 70 no.4:141-144 Jl-Ag '65. (MIRA 18:9)

TINYAKOV, G.G., prof.

Gregor Mendel, the founder of the science of heredity, 1822-1884; centennial of the foundation of experimental genetics. Veterinariia 42 no.7:112-113 Jl '65. (MIRA 18:9)

TINYAKOV, G.G.; TINYAKOV, Yu.N. (Moskva)

Mechanism of cell reproduction and cancerogenesis. Arkh. pat. 25 no.3:9-26 '63. (MIRA 17:12)

1. Iz kafedry anatomii i gistologii Moskovskogo tekhnologicheskogo instituta myasnoy i molochnoy promyshlennosti i laboratorii patologicheskoy anatomii instituta terapii AMN SSSR.

TINYAKOV, G.G.; BULOCHNIKOVA, Ye.K.

Reaction of the bone marrow and spleen to the effect of Ehrlich's ascitic tumor. Dokl. AN SSSR 153 no.1:233-236 N '63. (MIRA 17:1)

1. Moskovskiy tekhnologicheskiy institut myasnoy i molochnoy promyshlennosti. Predstavleno akademikom I.I. Shmal'gauzenom.

TELENIN, G.F. (Moskva); TINYAKOV, G.P. (Moskva)

Nonstationary supersonic flow about a blunt cone. Izv.AN SSSR.Otd. tekh.nauk.Mekh.i mashinostr. no.2:97-105 Mr-Ap '61. (MIRA 14:4)
(Aerodynamics, Supersonic)

TIRANOV, G.P., inzh.

Control of the tightness of the knitting on type KAS automatic circular hosiery knitting machines. Nauch.-issl.trudy VNIITP no.4:3-10 '63. (MIRA 17:4)

L 8810-65 EWT(1)/EPA(b)/FCS(k)/EWA(1) Pd-4 ASD(f)/ASD(d)/SSD/ASD(-3/
AFETR/AEDC(a)/BSD/AFTC(a)/AFWL/E3D(dp)/ESD(gs)/ESD(t) RM
ACCESSION NR: AP4043886 S/0179/64/000/004/0009/0028

AUTHOR: Gilinskiy, S. M. (Moscow); Telenin, G. F. (Moscow); Tinyakov, G. P. (Moscow)

TITLE: A method for calculating supersonic flow past blunt-nosed bodies with a detached shock wave

SOURCE: AN SSSR. Izvestiya. Mekhanika i mashinostroyeniye, no.4, 1964, 9-28

TOPIC TAGS: supersonic flow, shock wave, flow past blunt body, numerical method, supersonic perfect gas flow, equilibrium flow, nonequilibrium flow

ABSTRACT: A numerical method suggested by G. F. Telenin for calculating supersonic flow over blunt-nosed bodies with a detached shock wave is outlined. The authors present certain results from systematic investigations of supersonic flow of a perfect gas past bodies of various shapes, such as ellipsoids with various axis ratios, bodies with analytical contours of nearly toroidal shape with slightly rounded corners, bodies with concave contours near a critical point, bodies with contour-curvature discontinuities in the subsonic

Card 1/2

L 8810-65
ACCESSION NR: AP4043886

region, and bodies with contour breaks at the sonic point. Flows over bodies of various shapes at Mach numbers tending to ∞ and with adiabatic indices tending to one, and equilibrium and nonequilibrium air flows past a sphere are analyzed and discussed. The problem of supersonic flow with a detached shock wave is formulated, and the concepts of the method employed are outlined on the basis of analysis of properties of the solutions of elliptic and mixed model linear equations. The same method is applied to the solution of the nonlinear, boundary-value problem formulated in the first section of the article. Examples illustrating applications of the method are presented and the results are summarized in graphs. Orig. art. has: 11 figures and 52 formulas.

ASSOCIATION: none

SUBMITTED: 17Mar64 ATD PRESS: 3107 ENCL: 00

SUB CODE: ME, AS NO REF SOV: 008 OTHER: 013

Card 2/2

GILINSKY, S.M. (Moskva); TELENIN, G.F. (Moskva); TINYAKOV, G.P. (Moskva)

Method for calculating a supersonic flow about blunt bodies with a detached shock wave. Izv. AN SSSR Mekh. i mashinostr. no.4:9-28 Jl-Ag '64 (MIRA 17:8)

TELENIN, G. F.; TINYAKOV, G. P.

Supersonic flow of air and carbon dioxide gas past a sphere at thermochemical equilibrium. Dokl. AN SSSR 159 no.1: 39-42 N '64. (MIRA 17:12)

1. Nauchno-issledovatel'skiy institut mekhaniki Moskovskogo gosudarstvennogo universiteta. Predstavleno akademikom G.I. Petrovym.

L 15324-65 EWT(1)/EWP(m)/EWA(d)/FCS(k)/EWA(1) Pd-1 AFWL/BSD/SSD(b)/SSD/
AEDC(a)/ASD(f)-2/ASD(p)-3/AFETR/AFTC(a)/ESD(dp)
ACCESSION NR: AP4049124 S/0020/64/159/001/0039/0042

AUTHOR: Telenin, G. F.; Tinyakov, G. P.

TITLE: Investigation of supersonic flow of air and CO_2 at thermal equilibrium past a sphere

SOURCE: AN SSSR. Doklady*, v. 159, no. 1, 1964, 39-42

TOPIC TAGS: supersonic flow, shock wave, thermal equilibrium flow, supersonic flow past sphere, shock detachment, dissociation

ABSTRACT: The results are presented of a numerical investigation of supersonic flow around a sphere by a mixture of air and CO_2 considered to be in thermal equilibrium. Calculations were carried out on a computer for a wide range of flow parameters (M_∞, 3 to 50: pressures, 10^{-5} to 1 atm; temperature, 200 to 1500K). A system of differential equations describing the adiabatic motion of a gas in thermal equilibrium is derived and solved by the method of finite difference, on the basis of multiple solutions of the Cauchy problem in the direction from the shock wave to the body. Analysis of flow fields obtained in a flow of perfect gases with different adiabatic exponents over blunt-

Card 1/2

L 15324-65
ACCESSION NR: AP4049124

nosed bodies shows that in all subsonic regions, and especially near the symmetry axis, density changes comparatively slowly and differs very little from its value behind the shock. The dependencies of shock detachment on density ratio and also on pressure and temperature are given in graphs. It is stated that dissociation, and consequently the dependence on pressure, begin at $M_\infty = 6$—8. Orig. art. has: 4 figures, 3 tables, and 3 formulas.

ASSOCIATION: Nauchno-issledovatel'skiy institut mekhaniki Moskovskogo gosudarstvennogo universiteta im. M. V. Lomonosova (Scientific Research Institute of Mechanics, Moscow State University)

SUBMITTED: 23Apr64 ENCL: 00 SUB CODE: ME, AS

NO REF SOV: 004 OTHER: 000 ATD PRESS: 3138

Card 2/2

D'YAKONOV, Yu.N.; TELENIN, G.F.; TINYAKOV, G.P. (Moscow):

"Study of three-dimensional flow past bodies with detached shock wave."

report presented at the 2nd All-Union Congress on Theoretical and Applied Mechanics, Moscow, 29 Jan - 5 Feb 64.

TELENIN, G.F.; TINYAKOV, G.P.

Method for calculating a three-dimensional flow past bodies following the passage of a shock wave. Dokl. AN SSSR. 154 no.5:1056-1058 F'64. (MIRA 17:2)

1. Predstavleno akademikom G.I. Petrovym.

24542

10.1220

S/179/61/000/002/008/017
E081/E141

AUTHORS: Telenin, G.F., and Tinyakov, G.P. (Moscow)

TITLE: Unsteady supersonic flow past a cone with a blunt vertex

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Mekhanika i mashinostroyeniye, 1961, No.2, pp. 97-105

TEXT: The supersonic flow past the spherical-conical body ABC (see Fig.1) is analyzed. The spherical part of the body is AB and merges into the conical part at B. The semi-angle of the cone is θ_s; ME is the density discontinuity in the gas, and QP is the accustic line. The body is subjected to small vibrations about the point O given by $\alpha = \alpha_0 \cos \omega t$, where α is the instantaneous angle of attack. It is assumed that $\alpha_0 \ll 1$, $\omega L/V_1 \ll 1$, where V_1 is the velocity of the gas stream; that point B always lies in the supersonic region; and that the velocity V, pressure p and density ρ in the gas stream can be represented by:

Card 1/ 3

Unsteady supersonic flow past a cone with a blunt vertex

$$v = v_0 + \alpha v_\alpha + \alpha' v_{\alpha'}, \quad p = p_0 + \alpha p_\alpha + \alpha' p_{\alpha'},$$

$$\rho = \rho_0 + \alpha \rho_\alpha + \alpha' \rho_{\alpha'} \qquad (1.3)$$

On this basis, the flow is analyzed separately in the two regions ABDM and DBC, the first corresponding to flow past a sphere, and the second to flow past a cone. In each region, the solutions satisfy the gas-dynamic equations and the boundary conditions. The two solutions are combined so as to satisfy the conjunction of a sphere and a cone at B, and are used to find expressions for the aerodynamic moment M_2 acting on the body when vibrating in a supersonic field. The quantities determining M_2 are calculated for Mach 4, and are plotted against l/L for various values of the semi-angle of the cone. The coefficients are also determined for a vibrating sphere.

There are 5 figures and 2 Soviet references.

SUBMITTED: December 10, 1960

Card 2/3

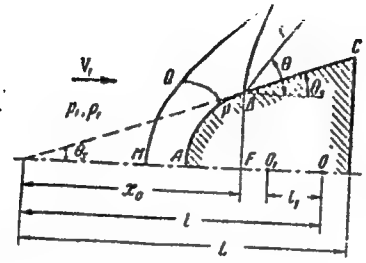


Fig. 1

Card 3/3

TINYAKOV, N.

When you're smart. Zhil.-kom.khoz. 12 no.8:31 Ag '62. (MIRA 16:2)

1. Direktor Orlovskogo banno-prachechnogo kombinata.
(Baths, Public) (Laundries, Public)

L 10936-66 EWT(1)/EWP(m)/EWA(d)/FCS(k)/ETC(m)/EWA(1) WW

ACC NR: AP6002315 SOURCE CODE: UR/0373/65/000/006/0010/0019

AUTHOR: Tinyakov, G. P. (Moscow)

ORG: none

TITLE: Investigation of a three-dimensional supersonic flow past ellipsoids of revolution

SOURCE: AN SSSR. Izvestiya. Mekhanika, no. 6, 1965, 10-19

TOPIC TAGS: supersonic flow, three dimensional flow, shock wave, detached shock wave, flow analysis, numeric integration, *ideal flow, gas flow, blunt body, aerospace structure*

ABSTRACT: This article gives the results of a theoretical investigation of a three-dimensional supersonic flow with a detached shock wave past ellipsoids of revolution, based on the method of numerical integration of equations of gasdynamics developed by G. F. Telenin and the author (Akademiya nauk. Doklady, v. 154, no. 5, 1964). A detailed outline of the method for calculating steady, ideal gas flow past blunt bodies in the subsonic and supersonic regions is [illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible] Orig. art. has: 18 figures, 4 formulas, and 1 table. [AB]

L 10936-66

ACC NR: AP6002315

SUB CODE: 20 / SUBM DATE: 18Feb65/ ATD PRESS: 4170

Card 2/2

RUTSKIY, Aleksandr Ivanovich; ZAGOROVSKIY, Ye.N., kand. tekhn. nauk, prepodavatel'; RUMYANTSEV, Yu.G., inzh., prepodavatel'; SKVARKO, E.A., inzh., prepodavatel', red.; TINYAKOV, N.A., kand. tekhn. nauk, dots., red.; VARENIKOVA, V., tekhn. red.

[Electric power plants and substations; principal electrical equipment]Elektricheskie stantsii i podstantsii; osnovnoe elektricheskoe oborudovanie. Minsk, Gos.izd-vo BSSR. Red. nauchno-tekhn. lit-ry, 1962. 423 p. (MIRA 16:3)

1. Kafedra elektricheskikh stantsiy Belorusskogo politekhnicheskogo instituta (for Zagorovskiy, Rumyantsev).
(Electric power plants) (Electric substations)

S/143/60/000/007/011/012/XX
D271/D305

AUTHORS: Zhunina, L.A., Tinyakov, N.A., Candidates of Technical Sciences, Docents

TITLE: New glass for high-voltage insulators

PERIODICAL: Izvestiya vysshikh uchebnych zavedeniy. Energetika, no. 7, 1960, 51-55

TEXT: The article reports on work carried out at the Belorusskiy politekhnicheskiy institut (Belorussian Polytechnic Institute). An increasing demand for insulators in all regions of the Soviet Union and the resulting difficulty in satisfying local needs prompted the BSSR to organize its own production of insulators. The materials problem was solved by utilizing glass. Glass insulators have the following advantages: 1) A higher electric and mechanical strength compared to porcelain which makes it possible to reduce the size of glass insulators; 2) Smaller sized glass insulators make it possible to reduce metal consumption for reinforcement and the sizes of poles or with equal poles, to increase the span; 3)

Card 1/5

New glass for high-voltage insulators

S/143/60/000/007/011/012/XX
D271/D305

Glass insulators are made of widespread cheap raw materials; 4) The technology of glass insulators permits overall automation of the production process at lower costs than those for porcelain insulators; 5) The application of hardened suspension glass insulators eliminates the need for their inspection during the service by means of a rod or other methods; 6) Testing finished hard glass insulators is much simpler than testing porcelain insulators and can be fully mechanized; 7) Capital investments are lower than for a comparable volume of production of porcelain insulators. Studies on optimum glass composition for high-voltage insulators are being carried out at the Belorussian Polytechnic Institute. Based on preliminary experiments it was decided to seek such an optimum composition in the SiO_2-Al_2O_3-CaO-MgO-NaO system. As raw materials for glass of this system such widespread materials can be used as quartz sand, kaolin, dolomite, limestone, manganese ore. Nine sand kaolin-chalk-dolomite-pyrosulite and three sand-kaolin-dolomite-pyrolusite mixtures (Table 1) were processed under the following conditions: charge beginning at 1300°C, charge end at 1200°C, temperature raised over 1 hour to 1380-1420°C, exposure at this tem-

Card 2/5

New glass for high-voltage insulators

perature during 0.5 - 1 hour, temperature reduction to 1300° during 1 hour, yield at 1300-1320°C. It was established that almost all types of glass of this series show good processing properties; they can be easily cast, pressed, rolled and drawn to threads. The interval of technological viscosity is sufficient for products of a complex configuration. The following characteristics of the glass types were investigated: 1) Technological characteristics: founding and yielding capacities (visually); 2) Physico-chemical properties: crystallizing capacity (polythermic method), softening temperature (I.I. Kitaygorodskiy's device) [Abstracter's note: Not described] specific gravity, thermal resistance (air-water method), linear expansion coefficient (tubular dynamometer), chemical resistance to water and to binormal sodium solution (powder method recommended by VNIIS); 3) Mechanical characteristics: microhardness and microtransparency (ПМТ (PMT) -3 device); 4) Electric characteristics, determined according to GOST 6433-52: specific resistance (galvanometer and F-57 ohmmeter), dielectric phase angle tangent and dielectric permeability (МДП (MDP) high-voltage bridge), electric strength (60 kilovolts, 5 kilowatts testing unit). Four glass

Card 3/5

New glass for high-voltage insulators S/143/60/000/007/011/012/XX D271/D305

compositions with the best technological, physico-chemical and electric properties have been selected for further tests under industrial conditions. There are 2 tables and 4 references: 3 Soviet-bloc and 1 non-Soviet-bloc.

Table 1. Legend: (1) Composition of experimental charges and glass (2) Number of glass; (3) Sand; (4) Kaolin; (5) Charge (weight); (6) Chalk; (7) Dolomite; (8) Pyrolusite; (9) Glass (weight %).

Составы опытных шихт и стекол (1)

Номера стекол (2)	Шихта, вес. ч. (5)					Стекла, вес. % (9)				
	Песок (3)	Каолин (4)	Мел (6)	Доломит (7)	Пиролюзит (8)	SiO_2	Al_2O_3	CaO	MgO	MnO
19/I	31,47	12,65	10,90	45,72	11,12	55,00	5,00	20,00	10,00	10,00
19/II	31,47	12,65	1,94	45,72	16,65	55,00	5,00	15,00	10,00	15,00
19/III	43,20	25,40	14,28	22,86	16,65	55,00	10,00	15,00	5,00	15,00
19/IV	32,04	25,40	—	68,58	5,55	55,00	10,00	15,00	15,00	5,00
19/V	37,34	37,95	1,94	45,72	5,55	55,00	15,00	15,00	10,00	5,00
19/VI	37,34	37,95	14,28	22,86	11,12	55,00	15,00	15,00	5,00	10,00
19/VII	31,47	50,60	14,28	22,86	5,55	55,00	20,00	15,00	5,00	5,00
19/VIII	37,34	37,95	—	68,58	5,55	55,00	15,00	10,00	15,00	5,00
19/IX	37,34	37,95	—	45,72	11,12	55,00	15,00	11,00	11,00	10,00
19/X	37,34	37,95	9,52	22,86	16,65	55,00	15,00	10,00	5,00	15,00
19/XI	37,34	37,95	23,22	22,86	5,55	55,00	15,00	20,00	5,00	5,00
19/XII	31,47	12,65	14,28	22,86	22,24	55,00	5,00	15,00	5,00	20,00

Card 4/5

New glass for high-voltage insulators S/143/60/000/007/011/012/XX
D271/D305

ASSOCIATION: Belorusskiy politekhnicheskiy institut (Belorussian Polytechnic Institute)

PRESENTED: On February 16, 1960 by the Kafedry tekhnologii stekla i silikatov i tekhniki vysokikh napryazheniy (Departments for Glass and Silicate Technology and High-Voltage Engineering)

Card 5/5

RUTSKIY, A.I., kand. tekhn. nauk, zasl. deyatel' nauki i tekhniki BSSR; ZAGOROVSKIY, Ye.N., inzh.; SLEPYAN, Ya.Yu., kand. tekhn. nauk; NOVASH, V.I., kand. tekhn. nauk; TINYAKOV, N.A., kand. tekhn. nauk; POL'SKIY, S., red.; KALECHITS, G., tekhn. red.; DOMOVSKAYA, G., tekhn. red.

[Electrician's manual] Spravochnoe posobie elektromontera. 2., perer. izd. Pod red. A.I.Rutskogo. Minsk, Gos. izd-vo BSSR. Red. nauchno-tekhn. lit-ry, 1961. 377 p. (MIRA 15:4)
(Electric engineering--Handbooks, manuals, etc.)

ZHUNINA, L.A., dotsent, kand.tekhn.nauk; TINYAKOV, N.A., dotsent, kand. tekhn.nauk

New types of glass for high-voltage insulators. Izv. vys. ucheb. zav.; energ. 3 no. 7:51-55 Jl '60. (MIRA 13:8)

1. Belorusskiy politekhnicheskiy institut. Predstavlena kafedrami tekhnologii stekla i silikatov i tekhnik vysokikh napryazheniy.

(Electric insulators and insulation)

ATABEKOV, G.I.; BASHARIN, A.V.; BOGORODITSKIY, N.P.; BULGAKOV, K.V.; VASIL'YEV, D.V.; YEGIAZAROV, I.V.; YERMOLIN, N.P.; KOSTENKO, M.P.; MATKHANOV, P.N.; NOVASH, V.I.; NORNEVSKIY, B.I.; RUTSKIY, A.A.; RYZHOV, P.I.; SOLOV'YEV, I.I.; SOLODNIKOV, G.S.; SLEPIAN, Ya.Ya.; SMIROVA, N.V.; TINYAKOV, N.A.; FATEYEV, A.V.; FEDOSEYEV, A.M.; SHABADASH, B.I.; SHCHEDRIN, N.N.

Viktor Ivanovich Ivanov, 1900-1964; obituary. Izv. vys. ucheb. zav.; energ. 8 no.1:122-123 Ja '65.

(MIRA 18:2)

STEPANCHUK, K.F., inzh.; TINYAKOV, N.A., kand. tekhn. nauk, dotsent

Puncture of transformer oil in a flow. Izv. vys. ucheb. zav.; energ. 7 no.12:13 D '64. (MIRA 18:2

1. Belorusskiy politekhnicheskiy institut. Predstavlena kafedroy tekhniki vysokikh napryazheniy.

TINYAKOV, Nikolay Arsen'yevich; VANCHUK, L., red.; VARENIKOVA,V., tekhn. red.

[New materials in electric power engineering] Novye materialy v elektroenergetike. Minsk, Izd-vo "Belorus'," 1963. 174 p.
(MIRA 17:2)

SLEPYAN, Ya.Yu., kand.tekhn.nauk, dotsent; TINYAKOV, N.A., kand.tekhn.nauk, dotsent

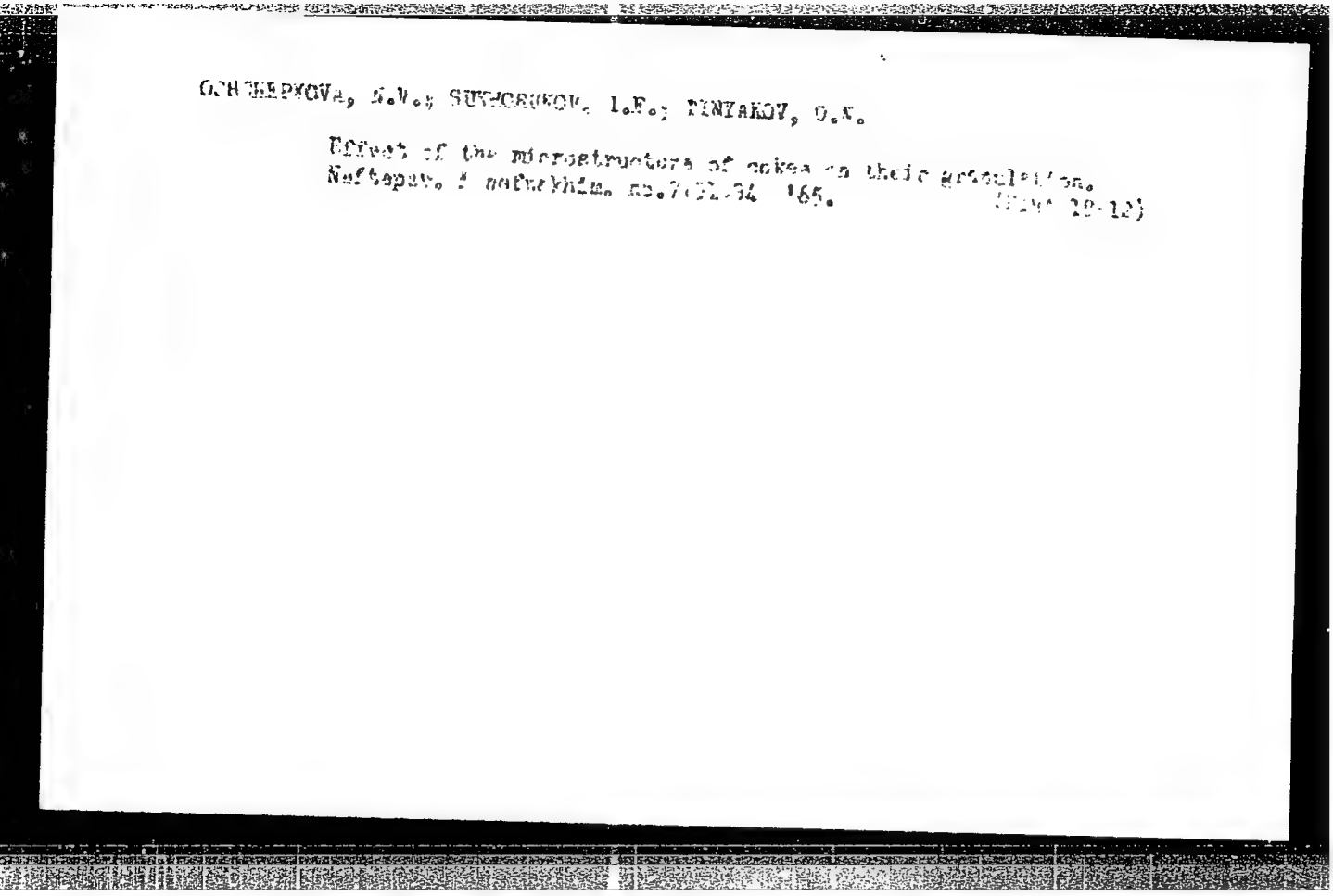
"Development of Power Engineering in White Russia" by I.F.Voloshina. Reviewed by IA.IU.Slepian and N.A.Tiniakov. Izv. vys. ucheb. zav.; energ. 5 no.9:130-131 S '62. (MIRA 15:10)

1. Belorusskiy politekhnicheskiy institut.
(White Russia—Power engineering) (Voloshina, I.F.)

STEPANCHUK, K.F., inzh.; TINYAKOV, N.A., kand.tekhn.nauk, dotsent

Deformation of gas bubbles in a liquid in an electric field. Izv.vys.ucheb.zav.; energ. 8 no.4:11-18 Ap '65. (MIRA 18:4)

1. Belorusskiy politekhnicheskiy institut. Predstavlena kafedroy tekhniki vysokikh napryazheniy.



OCHERKOVA, M.V.; SUVOROKOV, I.F.; PINYAKOV, O.N.

Effect of the microstructure of cokes on their granulation.
Neftepererab. i neftekhim. no.7[illegible] '65. (MIRA 20:12)

L 36810-66 EWP(k)/EWT(m)/T/EWP(w)/EWP(t)/ETI IJP(c) JD/HW

ACC NR: AP6024260 SOURCE CODE: UR/0128/66/000/007/0010/0011

AUTHOR: Mirzoyan, G. S. (Candidate of technical sciences); Zav'yalov, V. F. (Engineer); Tinyakov, V. G. (Engineer)

ORG: none

TITLE: Centrifugal casting of thin-wall steel shells

SOURCE: Liteynoye proizvodstvo, no. 7, 1966, 10-11

TOPIC TAGS: steel, ~~tube~~ metal tube, alloy steel, chromium containing steel, silicon containing steel, nickel containing steel, tungsten containing steel, vanadium containing steel, tube shell, tube shell casting, centrifugal casting/30KhSNVFA steel

ABSTRACT: The possibility of manufacturing 30KhSNVFA steel tube shells 520 mm in diameter, 15—20 mm wall-thickness, and up to 400 mm long, has been investigated. The steel was melted in a basic induction furnace and cast at 1530—1540C in a water-cooled mold at a speed of 400 rpm. Shells with a wall thickness of about 28 mm, cast in 50—30 sec with a metal solidification rate of 0.50—0.90 mm/sec, were found to have longitudinal cracks. No cracks were observed when the pouring time was reduced to 16 sec and the solidification rate was increased to 1.10—1.70 mm/sec. Castings, annealed at 1100C for 4 hr, furnace cooled to 400C, and then air cooled, had a hardness of about HB228, a tensile strength of 79—89 kg/mm^2, a yield strength of 52—58

Card 1/2 UDC: 621.74.042:669.141.25

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ACC NR: AP6024260

kg/mm^2, and a microstructure consisting of lamellar perlite and sorbite without nonmetallic inclusions. The shells were successfully hot rolled into tubes 500 mm in diameter with a wall thickness of 5 mm. Orig. art. has: 3 figures and 2 tables.

SUB CODE: 13/ SUBM DATE: none/ ORIG REF: 001/ ATD PRESS: 5039 [AZ]

Card 2/2

KOLKER, I.I.; TINYAKOV, Yu.G. (Moskva)

Immunomorphological study of the cytotoxic effect of antirenal antibodies in Masugi nephritis. Arkh. pat. 27 no.1:32-35 '65.
(MIRA 18:4)

1. Institut khirurgii imeni Vishnevskogo (dir. - deystvitel'nyy chlen AMN SSSR A.A.Vishnevskiy) AMN SSSR i laboratoriya patologicheskoy anatomii (zav. - prof. A.M.Vikhert) Instituta terapii (dir. - deystvitel'nyy chlen AMN SSSR A.L.Myasnikov) AMN SSSR.

TIFYAKOV, Yu.G. (Moskva)

Organization of fibrin. Arkh. pat. no.12:54-61 '62
(MIRA 18:1)

1. Iz kafedry patologicheskoy anatomii II Moskovskogo meditsinskogo instituta imeni N.I. Pirogova (zav. - deyatvitel'nyy chlen AMN SSSR I.V. Davydovskiy) i laboratorii patologicheskoy anatomii (zav. - doktor med. nauk A.M. Vikhert) Instituta terapii AMN SSSR.

TINYAKOV, G.G.; TINYAKOV, Yu.G.

Origin of cancer in the light of proliferative variability of normal cells. Dokl. AN SSSR 141 no.4:998-1001 D '61. (MIRA 14:11)

1. Moskovskiy tekhnologicheskiy institut myasnoy i molochnoy promyshlennosti i Institut terapii Akademii meditsinskikh nauk SSSR. Predstavleno akademikom I.I. Shmal'gauzenom.
(CANCER)

TINYAKOV, G.G.; TINYAKOV, Yu.G.

Spontaneous chromosome mutations under normal and pathological conditions. Dokl.AN SSSR 134 no.1:187-190 S '60. (MIRA 13:8)

1. Moskovskiy tekhnologicheskiy institut myasnoy i molochnoy promyshlennosti. Predstavleno akad. I.I.Shmal'gauzenom.
(Chromosomes)

ZORIN, Yevgeniy Timofeyevich; TINYAKOV, Yuriy Mikhaylovich; ROMADIN, A.G., red.; LIFEROVA, A.I., red.izd-va; FOMICHEV, P.M., tekhn. red.

[Assembly, operation and repair of bakery equipment] Montazh, ekspluatatsiia i remont khlebopekarnogo oborudovaniia, Moskva, Izd-vo TSentrosoiuza, 1963. 251 p. (MIRA 16:12)
(Bakeries--Equipment and supplies)

TIMYAKOVA, N.I.

Pharmacology of sweet William. Trudy Oren. otd. Vses. fizioll. ob-va no.2:142-146'60. (MIRA 16:8)

1. Kafedra farmakologii (zav. - prof. A.A. Lyubishin) Orenburgskogo meditsinskogo instituta.
(PINKS) (VASOMOTOR DRUGS)

KUTSENOK, B.Ye.; TINYAKOVA, Ye.I.; DOLGOPLOSK, B.A.

Interaction between isopropylbenzene hydroperoxide and rongalite, and the use of this reaction for initiating polymerization in acid media. Vysokom.soed. 1 no.12:1830-1839 D '59. (MIRA 13:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka.
(Polymerization) (Sodium formaldehyde sulfoxylate) (Hydroperoxides)

ANGHELESCU,V.; TIRNOVEANU,G.; TRIFAN,C.; CIOBANU,C.; VOICU,A.

Contributions to the study of staphylococcal gastro-enteritis in children. Rumanian M. Rev. 4 no.1:58-60 Ja-Mr '60.

1. Hospital for Children in Galati (Director: Dr. Virgil Anghelescu).
(GASTROENTERITIS in infancy & childhood)
(STAPHYLOCOCCAL INFECTIONS in infancy & childhood)

COUNTRY : USSR
CATEGORY : Farm Animals.
Cattle.
ABS. JOUR. : RZBiol., No. 3, 1959, No. 11985

AUTHOR : Tinyakov, G.G.
INST. : Institute of Animal Morphology. AS USSR
TITLE : Embryonic Development of the Mammary Gland in Cattle

ORIG. PUB. : Tr. In-ta morfol. zhivotnykh AN SSSR, vyp. 22 116-131

ABSTRACT : The successive development is described of the mammary gland in cattle from the embryonic age of one month to the parturition of calves of both sexes. It is noted that the fundamental differentiation of the gland's epithelial rudiment which forms the epithelial infundibulum, the cervix of the infundibulum, the basic rudimental cistern, the pre-udder canal and rudimentary cistern of the udder is accomplished when the fetus reaches the age

CARD: 1/3

JOURN : USSR
CATEGORY :

ABS. JOUR. : RZhBiol., No. 1959, No.

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : of 4 months. The mammary gland's earliest element is represented by the mammillary canal , which is formed by the walls of the epithelial infundibulum which originates in turn in the epithelial cones of 2-month old embryos. At the same time the establishment of the udder's fatty tissue also takes place in the form of fatty islets which consequently undergo rapidly progressing growth in terms of quantity and quality. The formation mechanism of the udder's lymph vessel is

Card: 2/3

: USSR
:

ABS. JOUR. : RZhBiol., No. 1959, No.

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : determined as well as the manner in which their valves develop, consisting of the formation of the vessel's inner endothelial layer by means of fiberblasts being adsorbed at the surface of the lymphatic fluid and which are apparently greatly flattened and tightly bound to each other. -- A. D. Musin

CARD: 3/3

TINYAKOV, N.A., dots.; RUMYANTSEV, Yu.G., inzh.

All-Union conference on groundings. Izv.vys.ucheb.zav.; energ. no.12: 118-120 D '58. (MIRA 12:3)

1. Belorusskiy politekhnicheskiy institut.
(Electric currents--Grounding)

TINYAKOV, N.A.

Mechanization of operations at the Orel silica brick factory.
Stroi.mat. 5 no.2:28-29 F '59. (MIRA 12:2)
(Orel--Brickmaking machinery)

RUTSKIY, A.I., kand.tekhn.nauk, zasluzhennyy deyatel' nauki i tekhniki BSSR; ZAGOROVSKIY, Ye.N., inzh.; SLEPYAN, YA.YU., kand.tekhn.nauk; NOVASH, V.I., kand.tekhn.nauk; TINYAKOV, N.A., kand.tekhn.nauk; KASHTANOV, F., red.; STEPANOVA, N., tekhn.red.

[Electrician's handbook] Spravochnoe posobie elektromontera. Minsk, Gos.izd-vo BSSR, Red.nauchno-tekhn.lit-ry, 1960. 360 p. (MIRA 13:9)

(Electricity--Handbooks, manuals, etc.)

RUTSKIY, A.I.; LEONKOV, A.M.; GEYLER, L.B.; SLEPYAN, Ya.Yu.; MOSEYEV, I.V.; SOBOLEV, A.I.; TINYAKOV, N.A.; VOLKOV, N.P.; BOTVINNIK, Ya.Ye.; BARABANOV, M.Ye.; BRAZGOVKA, V.A.; PEKELIS, G.B.; KUZOVNIKOVA, Ye.A.; KUZ'MIN, Yu.P.; SHIMKO, N.I.; PALLADIY, N.L.; KHUTSKIY, G.I.

G.I. Dobkin; obituary. Izv. vys. ucheb. zav.; energ. no.4:128 Ap '58.
(Dobkin, Grigorii Izrailevich, 1892-1958) (MIRA 11:6)

TINYAKOV, N.I., inzh.

Standard electric switchbox. Nov.tekh. i pered. op. v stroi. 19 no.7:27 Jl '57. (MIRA 10:10)
(Electric switchgear)

SIDOROV, V.A., inzhener; TINYAKOV, N.I., tekhnik.

Granite and ceramic facing of building facades in winter using electric heating; construction experience on the Moscow State University buildings. Gor.khoz.Mosk. 28 no.1:35-37 Ja '54. (MLRA 7:2)

(Bricklaying--Cold weather conditions)

VIKHERT, A.M.; SEREBROVSKAYA, Yu.A.; TINYAKOV, Yu.G. (Moskva)

Renin and the juxtaglomerular apparatus in experimental nephritis. Arkh.pat. no.2:17-24 '63 (MIRA 16:11)

1. Iz Instituta terapii AMN SSSR (dir. - deystvitel'nyy chlen AMN SSSR prof. A.L.Myasnikov.)

TINYAKOV, Yu.G. (Moskva)

Microtome. Arkh. pat. 26 no.2:86 '64.

Cryostat. Ibid.:86-87 (MIRA 17:8)

1. Institut terapii AMN SSSR.

TIKHOV, YU. G.

DAVYDOVSKIY, I.V.; DANILOVA, Z.N.; GULINA, L.A.; POPKOVSKAYA, L.Ye.; PYATNITSKIY, N.N.; TIKHOV, Yu.G.; KHOKHLOVA, Z.Ye.; CHERNOKOVA, S.A.

Experimental morphological analysis of tissue systems of the body in "decorticated" animals. Arkh. pat. 22 no. 8:18-34 '60. (MIRA 14:1)

(CEREBRAL CORTEX)

Dissertation: "Investigation of the Polymerization of 2-Chlorobutadiene-1, 3 in Solutions." Moscow Inst of Fine Chemical Technology imeni M. V. Lomonosov, 24 Mar 47.

SO: Vechernyaya Moskva, Mar, 1947 (Project #17836)

TINYAKOVA, YE. I

USSR/Organic Chemistry - Theoretical and General Questions on Organic Chemistry, E-1

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 61379

Author: Tinyakova, ~~Ye. I.~~, Dolgoplosk, B. A., Tikhomolova, M. P.

Institution: None

Title: Reactions of Free Radicals in Solutions. III. Study of the Reactions of Free Radicals with Sulfur

Original Periodical: Zh. obshch. khimii, 1955, 25, No 7, 1387-1394

Abstract: A study of the reactions of methyl, ethyl, isopropyl and allyl free radicals with S and polysulfides. As a source of free radicals use was made of alkyl phenyltriazenes and azobenzene (mechanism of reaction, see communication II, Referat Zhur - Khimiya, 1955, 40009). As solvent was chosen isopropylbenzene (I) in order to evaluate the competing reactions of free radicals with S and with the solvent. A solution of 3.2 mol % triazene and S (6-8 mol per 1 mol triazene) in I was heated at 112° until evolution of gas ceased. It is shown

Card 1/3

USSR/Organic Chemistry - Theoretical and General Questions on Organic Chemistry, E-1

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 61379

Abstract: that free radicals are almost completely taken up by S with the formation of alkyl polysulfides which are the primary products of the reaction and do not depend on the presence of by-products of the reaction, namely amines, in the reaction medium. The above-stated radicals differ greatly by their activity in the reaction of removal of H from I and differ but little in the reaction with S due to the lower energy of activation of this reaction. On reaction of allyl radical with S are formed diallylpolysulfides with a low yield which is explained by the instability of these products. On interaction of azobenzyl [sic] with S (1:13.7) H_2S is formed with a yield of 81-87% and benzaldazine (II), yield 51%. Formation of H_2S and II is the result of oxidation of azabenzyl by S. The author assumes that such reactions of dehydrogenation are also possible in rubbers containing diallyl groupings. It is shown that on [redacted]action of methyl radical with S in the presence of mercaptans (or H_2S) there takes place removal of hydrogen from mercaptan (or H_2S) with formation of hydrocarbons and the radicals RS (or SH). Studied is the reaction of methyl radical with

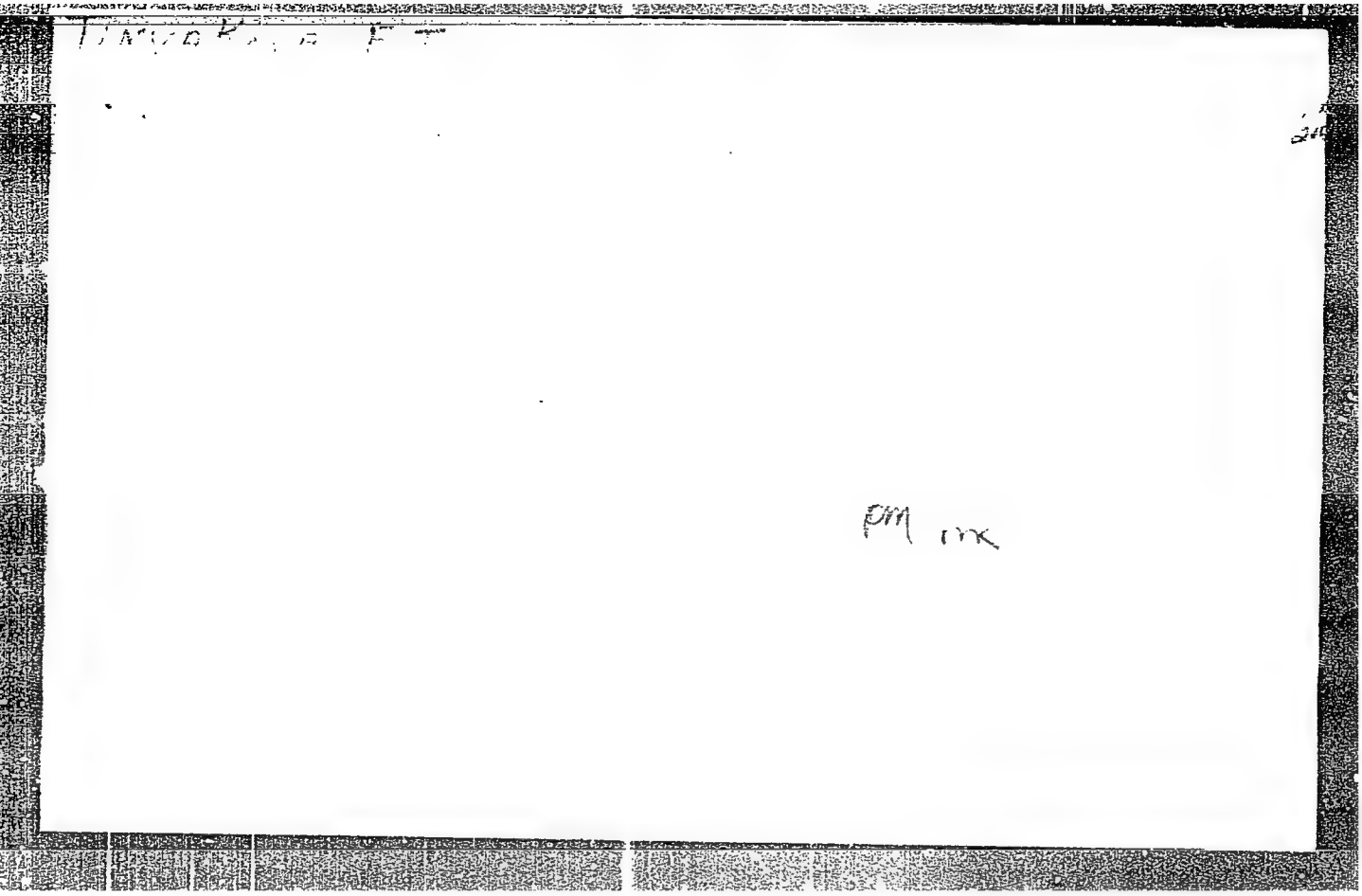
Card 2/3

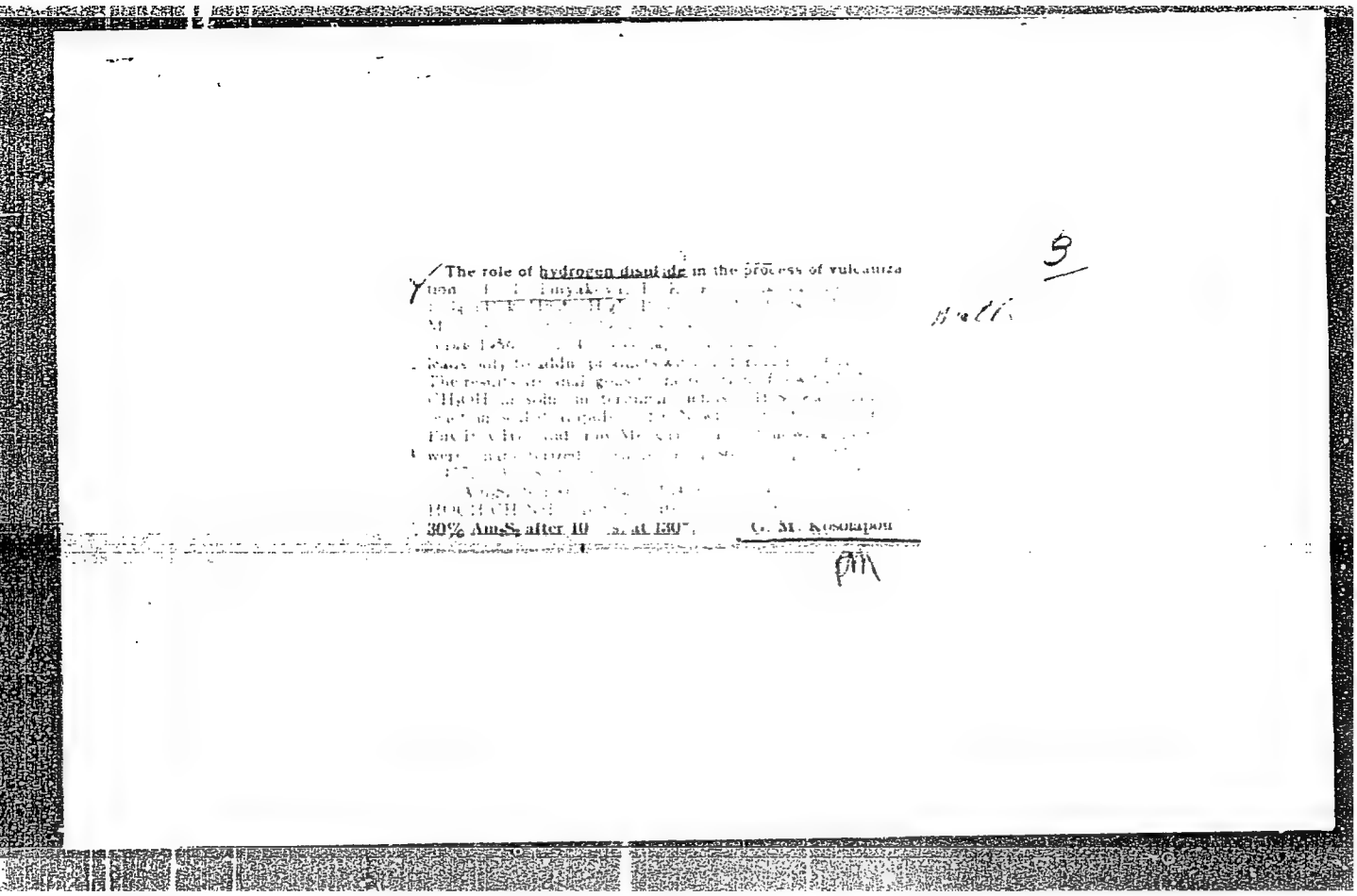
USSR/Organic Chemistry - Theoretical and General Questions on Organic Chemistry, E-1

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 61379

Abstract: polysulfides (dilauryltetrasulfide and dibenzyltetrasulfide), which confirmed the fact that the polysulfides formed in the course of the reaction react with free radicals the same as elemental S. It is shown on the example of dimethylpolysulfide using S^{35} that under these conditions are formed molecules of dimethylpolysulfide containing on the average 6 atoms of sulfur.

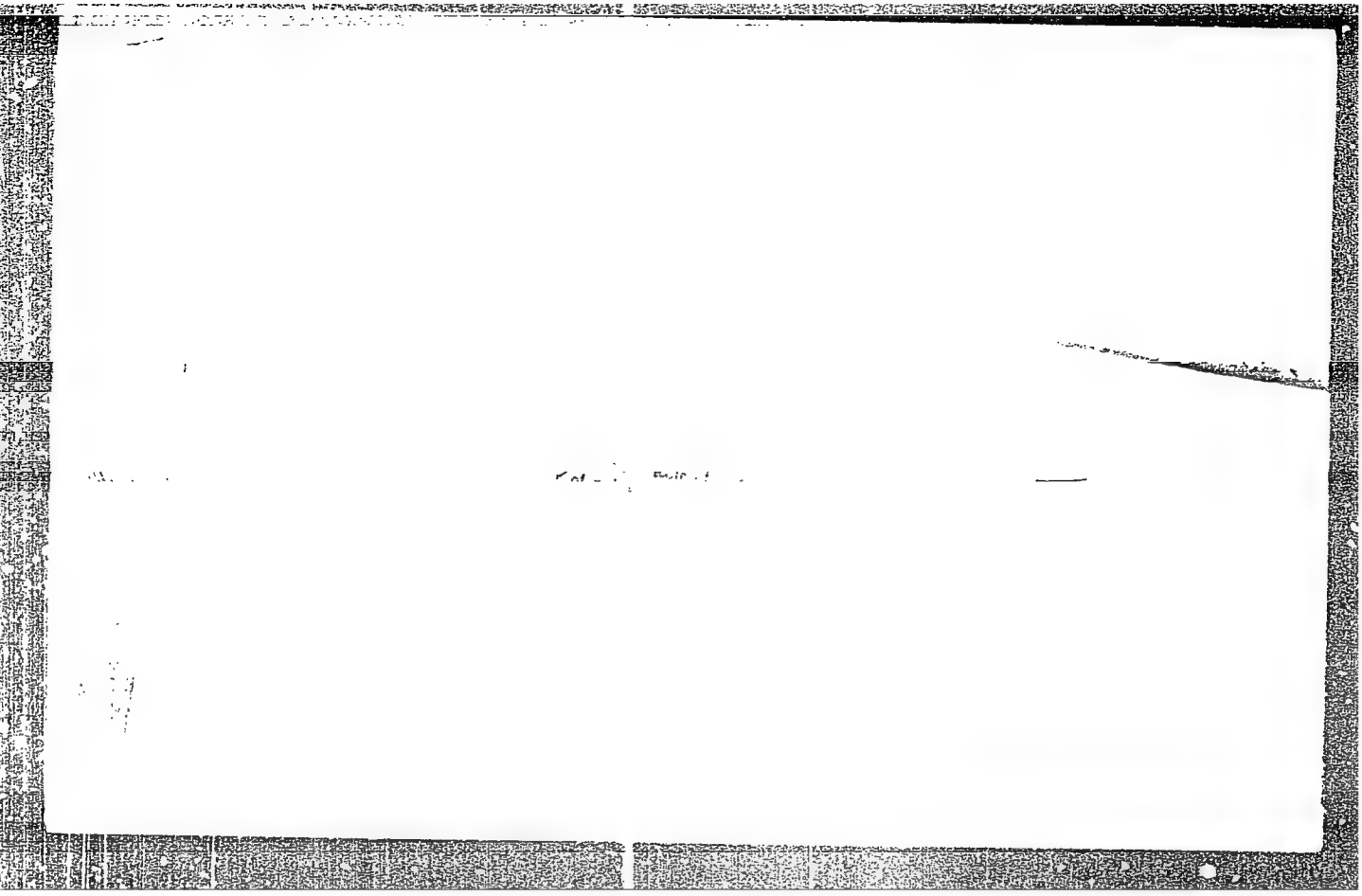
Card 3/3

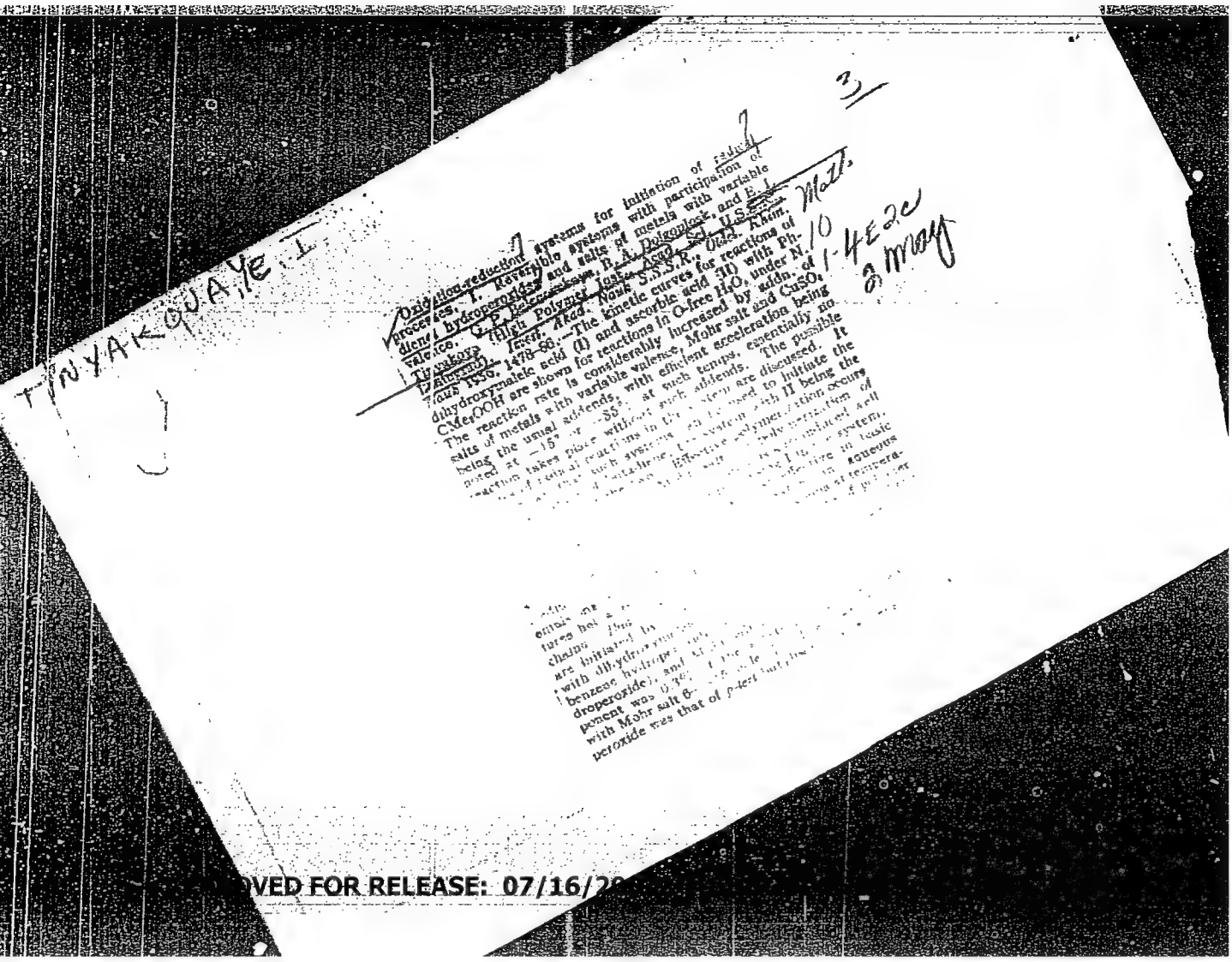




The role of hydrogen disulfide in the process of vulcaniza

30% Am_2S after 10 [illegible] at 130°. G. M. Kosolapoff





TIKHYAKOVA, YE. L.

Oxidation-reduction systems for initiation of radical processes. I. Reversible systems with participation of dienol hydroperoxides and salts of metals with variable valence. V. P. Zelenetskaya, B. A. Dolgoplosk, and E. I. Tinyakova (High Polymer Inst., Acad. Sci. U.S.S.R., Leningrad). Izvest. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk 1956, 1478-80. The kinetic curves for reactions of dihydroxymaleic acid (I) and ascorbic acid (II) with $PhCMe_2OOH$ are shown for reactions in O-free H_2O, under N. The reaction rate is considerably increased by adding salts of metals with variable valence ... being the usual ... noted ... [illegible] ... most effective of the ... at 15° with ... butadiene ... at pH 9-11, with ... rate at pH ... I in the system with Cu salts as catalysts being most effective in basic medium. II. Initiation of polymerization in aqueous emulsions under influence of reversible systems at temperatures below zero and a study of microstructure of polymer chains. *Ibid.* 1957, 65-9.—Polymerizations of butadiene are initiated by systems of the oxidation-reduction type with dihydroxymaleic acid, $PhCMe_2OOH$ (or diisopropylbenzene hydroperoxide or *p-tert*-butylisopropylbenzene hydroperoxide), and Mohr salt components. The acid component was 0.3% of the substrate, hydroperoxide 0.6% (or with Mohr salt 0->15 mole %. The most effective hydroperoxide was that of *p-tert*-butylisopropylbenzene, although

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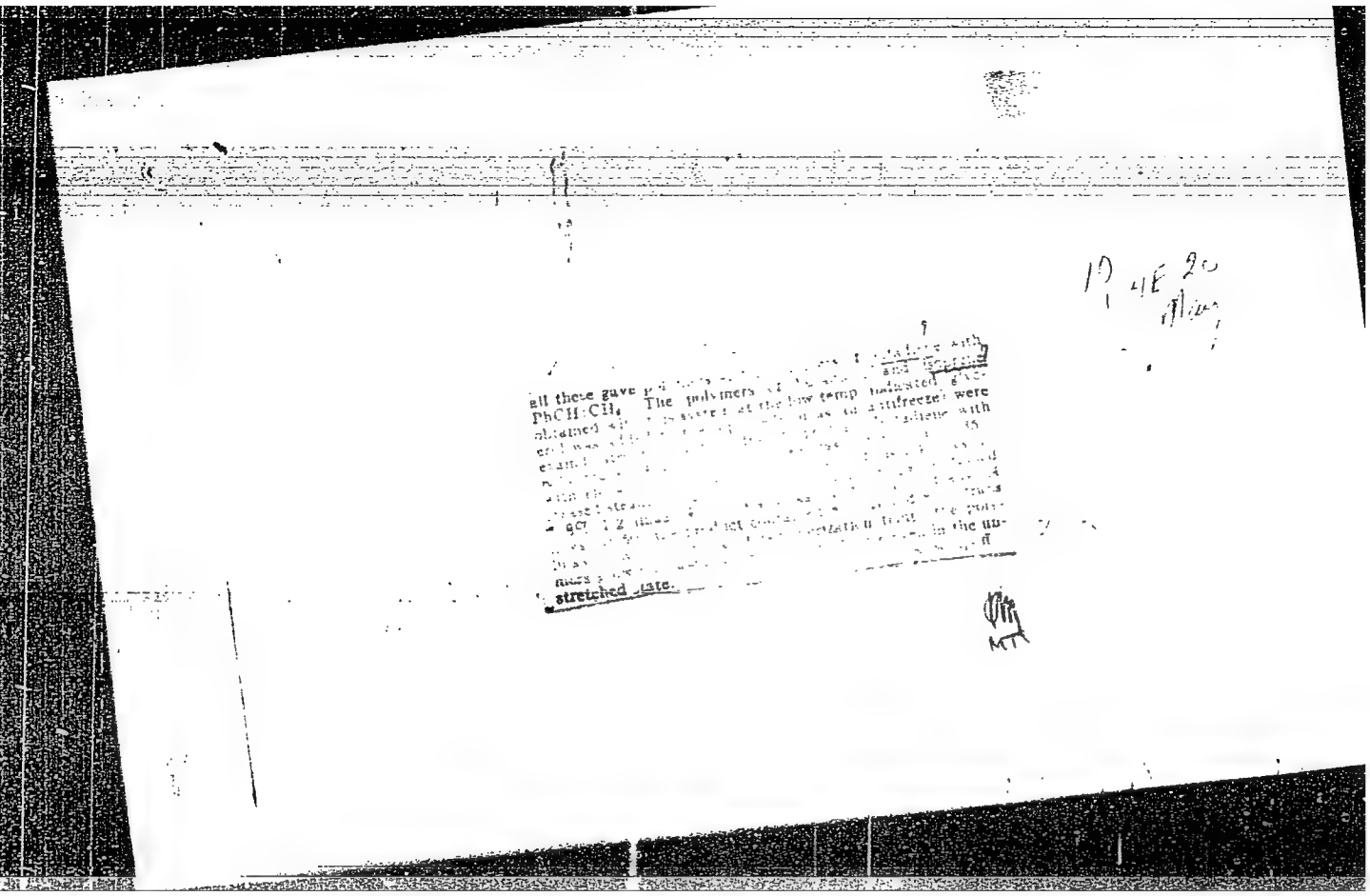
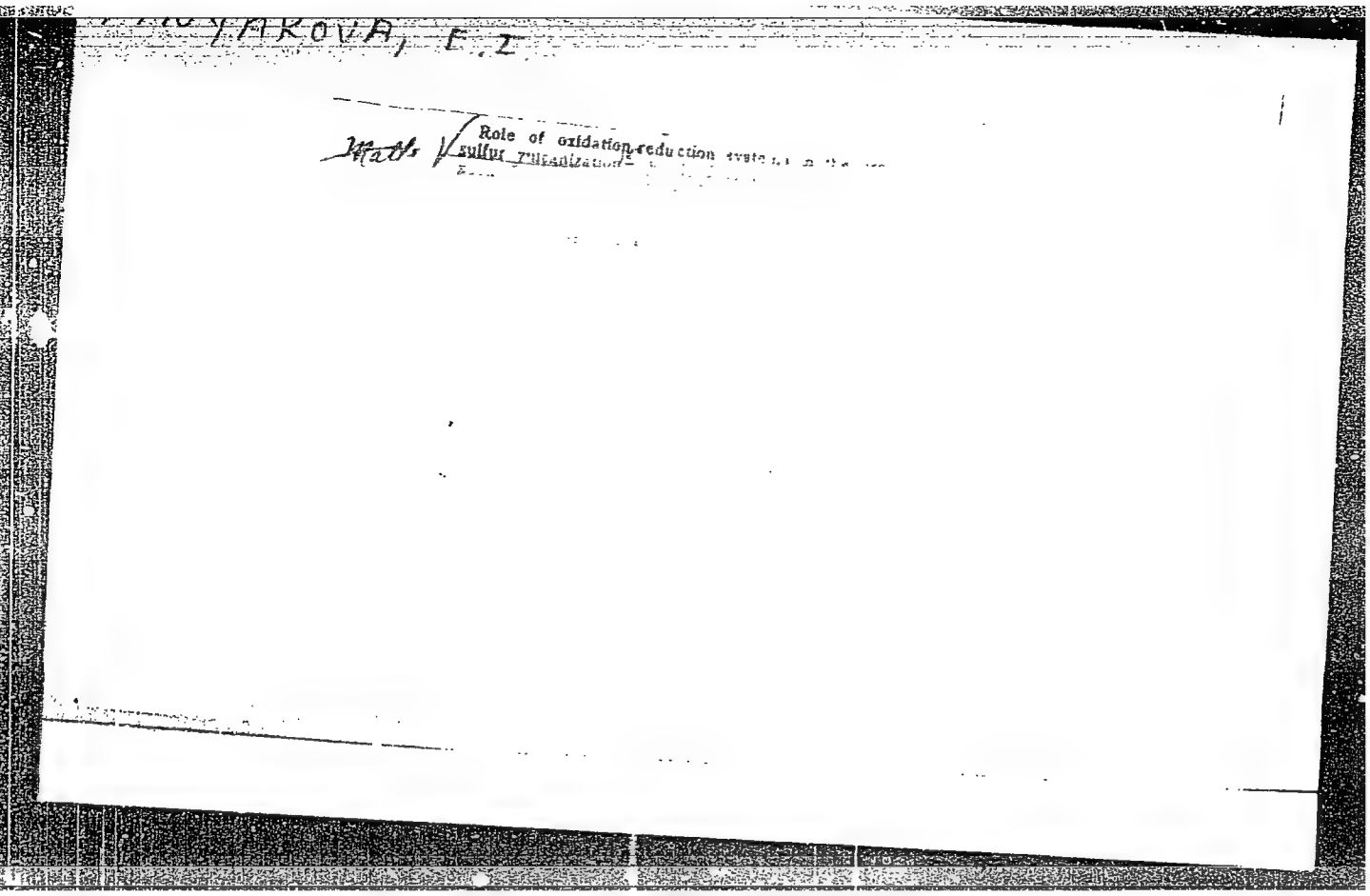


all these gave p
PhCH:CH2. The polymers
obtained
stretched plate.



TIKHONOVA, [illegible], [illegible], [illegible]

"Redox systems in polymerization," a paper presented at the [illegible] Conference on the Chemistry and Physics of High Polymers, 28 Jan-2 Feb 57, Moscow, Polymer Research Inst.

B-3,084,395

TIMYAKOVA, E. Y., DOLGOPLASK, B. A., REYKH, V. P., KALMUS, A. L.

"Synthesis of acrylic rubbers and their properties," a paper presented at the 9th Congress on the Chemistry and Physics of High Polymers, 28 Jan - 2 Feb 57, Moscow, Rubber Research Inst.

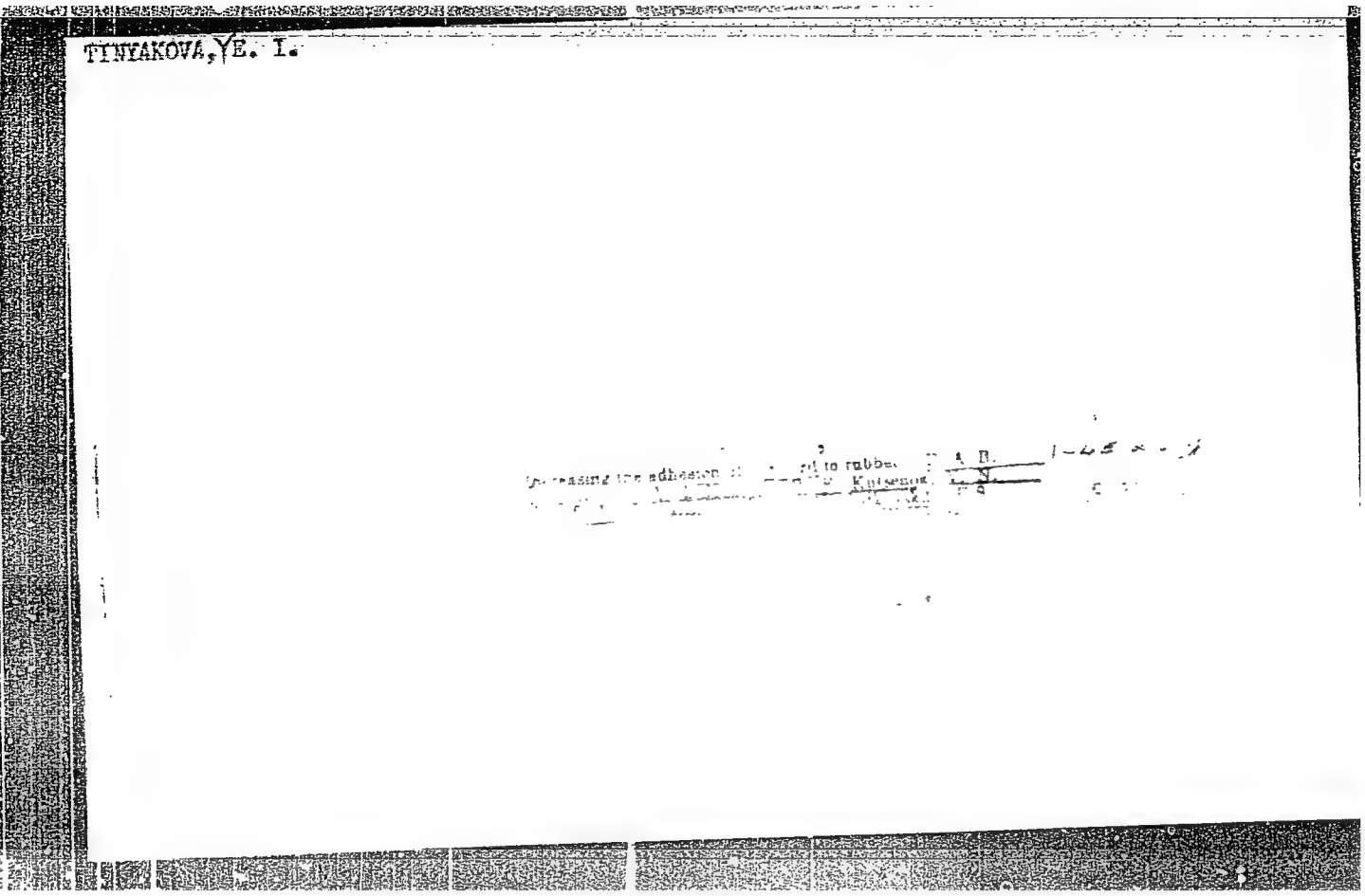
B-3,084,395

TIHYAKOVA, A.Y., BELOHOVSKAYA, G.P., and DOLGOPLASK, B. A.

"Low temperature polymerization initiated by di-enols and properties of the resulting polymers," a paper presented at the 9th Congress on the Chemistry and Physics of High Polymers, 28 Jan-2 Feb 57, Moscow, Polymer Research Inst.

B-3,084,395

TINYAKOVA, YE. I.



AUTHORS: Belonovskaya, G. P.; Dolgoplosk, B. A.; Tinyakova, Ye. I. 62-1-9/21

TITLE: Oxidation-Reduction Systems for the Initiation of Radical Processes. Part 2. Initiation of Polymerization in Aqueous Emulsions under the effect of Reversible Systems at a Temperature of below 0° and Study of the Microstructure of the Polymeric Chain (Okislitel'no-vosstanovitel'nyye sistemy dlya initsiirovaniya radikal'nykh protsessov. Soobshcheniye 2. Initsiirovaniye polimerizatsii v vodnykh emul'siyakh pod vliyaniyem obratimykh sistem pri temperature nizhe 0° i izucheniye mikrostruktury polimernoy tsepi).

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Khimicheskikh Nauk, 1957, No. 1, pp. 65-69 (U.S.S.R.)

ABSTRACT: The purpose of this report is to study the applicability of an oxidation-reduction system, consisting of dienols, hydrogen peroxide of isopropylbenzene and very small amount of ferric salt or cupric salt, for the initiation of polymerization in an aqueous emulsion at very low temperatures for the purpose of establishing the relation between the

Card 1/3

Oxidation-Reduction Systems for the Initiation of Radical Processes. Part 2. Initiation of Polymerization in Aqueous Emulsions under the effect of Reversible Systems at a Temperature of below 0° and Study of the Microstructure of the Polymeric Chain

polymerization temperature and the microstructure of the polymeric chain. It was found that the application of such system is perfectly possible for polymerization initiation at temperatures ranging down to -47°. It is evident from results obtained that the system containing dioxymaleic acid and ferric salt is the most active one but only in the presence of hydrogen peroxide of r-tertiary-butyl-isopropyl benzene.

The authors obtained data which established a close relation between the polymerization temperature of Divinyl and isoprene and the microstructure of the polymeric chain. A reduction in polymerization temperature displaces the equilibrium toward a more stable trans-form. Divnyl polymers at a reduced polymerization temperature show a positive tendency toward crystallization.

Card 2/3

Tables, graphs, illustrations. There are 11 references, of which 2 are Slavic.

62-1-9/21

Oxidation-Reduction Systems for the Initiation of Radial Processes. Part 2. Initiation of Polymerization in Aqueous Emulsions under the effect of Reversible Systems at a Temperature of below 0° and Study of the Microstructure of the Polymeric Chain

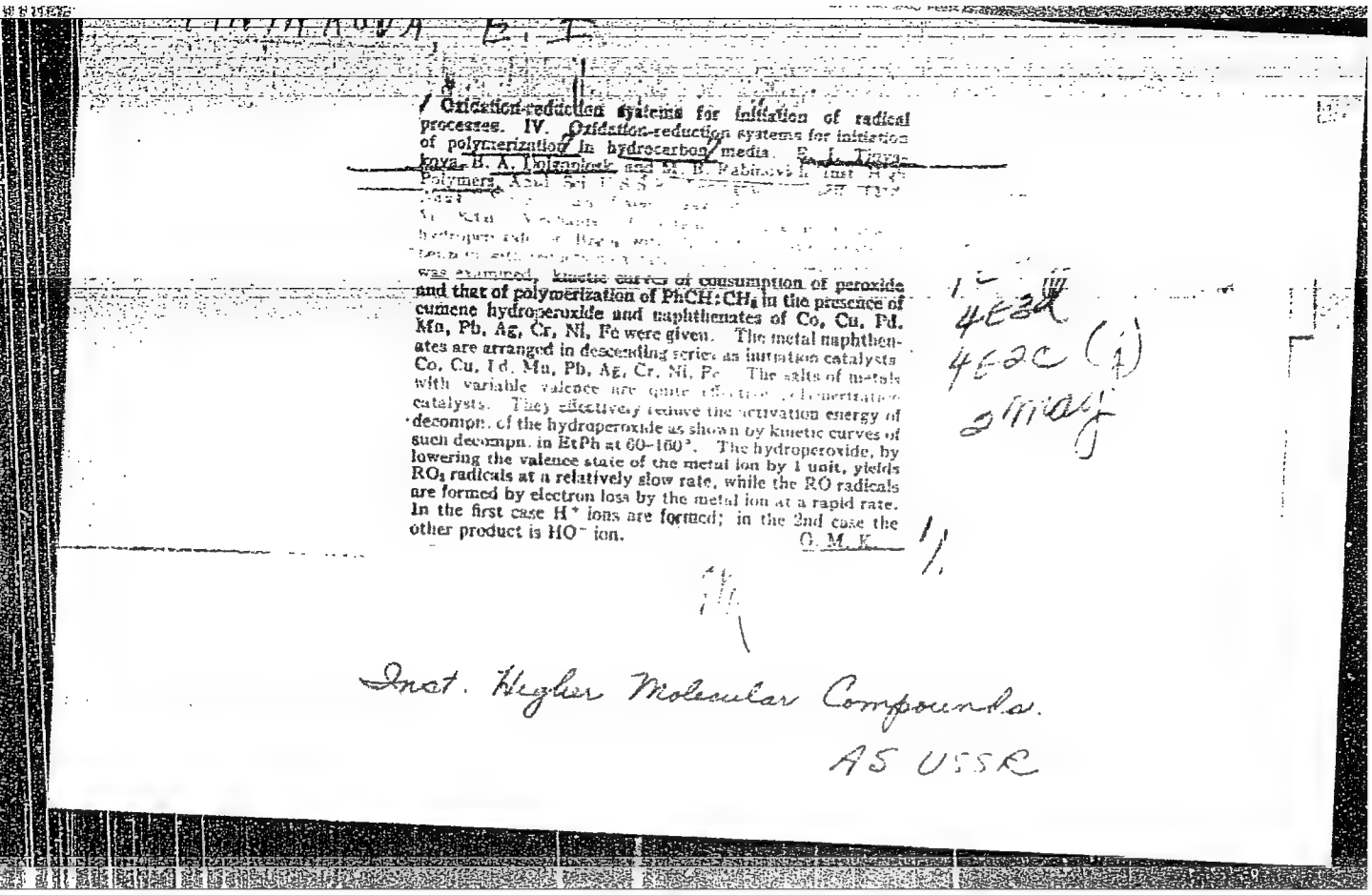
ASSOCIATION: Academy of Sciences of the USSR, Institute of High Molecular Compounds

PRESENTED BY:

SUBMITTED: December 13, 1955

AVAILABLE: Library of Congress

Card 3/3



Oxidation-reduction systems for initiation of radical processes. IV. Oxidation-reduction systems for initiation of polymerization in hydrocarbon media. [illegible] Tsvetkova, B. A. Dolgoplosk, and M. B. Fabinovich. Inst. [illegible] Polymers, Acad. Sci. USSR. [illegible] was examined, kinetic curves of consumption of peroxide and that of polymerization of $PhCH:CH_2$ in the presence of cumene hydroperoxide and naphthenates of Co, Cu, Pd, Mn, Pb, Ag, Cr, Ni, Fe were given. The metal naphthenates are arranged in descending series as initiation catalysts Co, Cu, Pd, Mn, Pb, Ag, Cr, Ni, Fe. The salts of metals with variable valence are quite effective polymerization catalysts. They effectively reduce the activation energy of decompn. of the hydroperoxide as shown by kinetic curves of such decompn. in EtPh at 60–160°. The hydroperoxide, by lowering the valence state of the metal ion by 1 unit, yields RO_2 radicals at a relatively slow rate, while the RO radicals are formed by electron loss by the metal ion at a rapid rate. In the first case H^+ ions are formed; in the 2nd case the other product is HO^- ion.

O. M. K.

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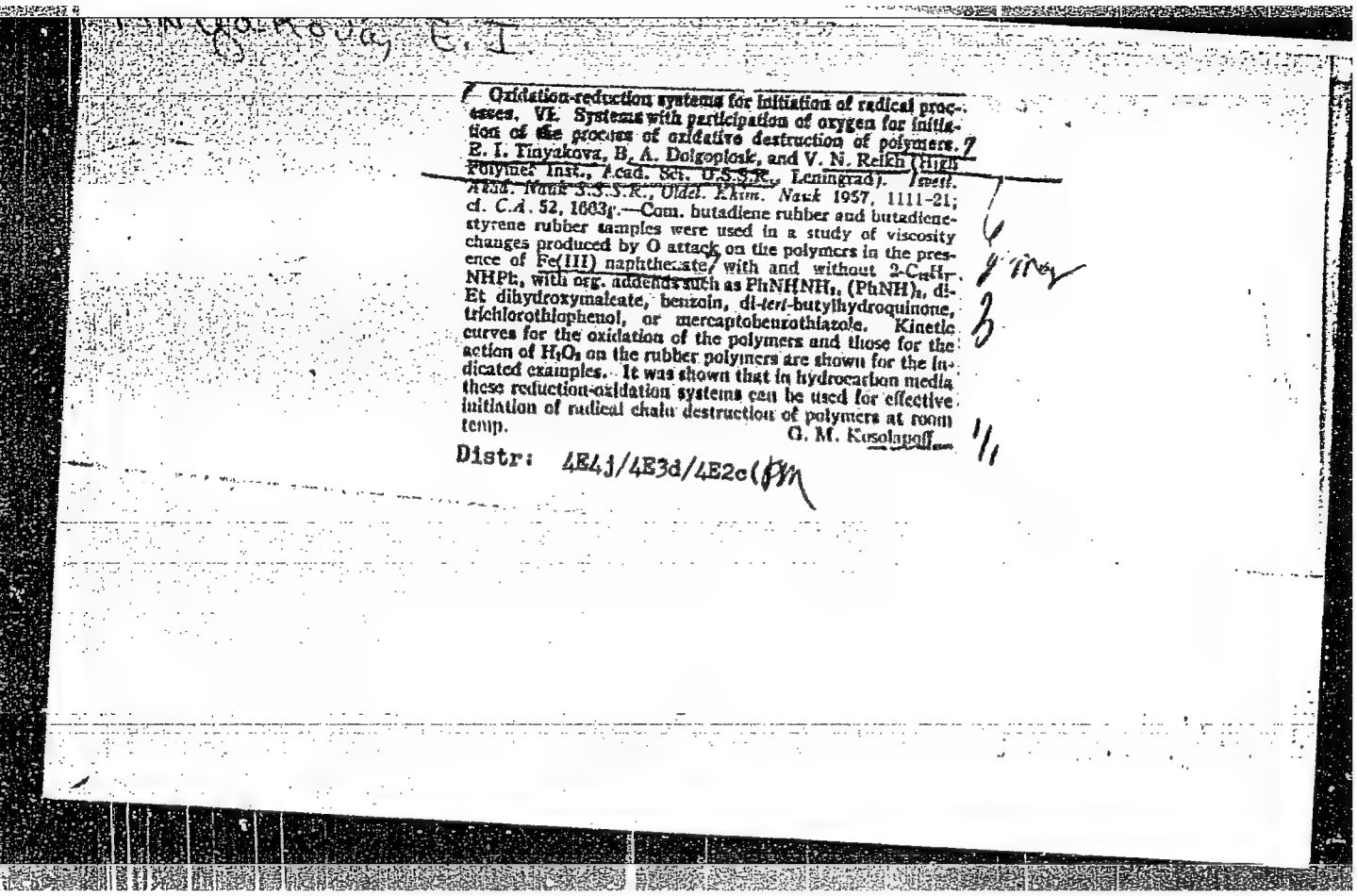
Inst. Higher Molecular Compounds.
AS USSR

Oxidation-reduction systems in initiation of radical processes V Oxidation-reduction systems for structure formation of rubbers in hydrocarbon solutions

[redacted]

with various reducing agents initiate a chain process of radical reactions which results in tridimensional structuring of rubbers in hydrocarbon solvents. Oxygen represses this process and causes destructive oxidation of the polymers. The reactions were followed viscosimetrically and kinetic curves of viscosity changes are shown for systems of styrene-butadiene rubber with Bz_2O_2 and di-Et dihydroxymaleate and ferric naphthenate, or benzoin and ferric naphthenate, or tetramethylenetetramine and ferric naphthenate, or BzO_2H and $PhCMe_2O_2H$. A curve is also given for butadiene-styrene rubber with $PhCMe_2O_2H$ and 2-mercaptobenzothiazole, or a similar system with diphenylguanidine, 2-mercaptobenzothiazole, and $PhCMe_2O_2H$. The combination of dibenzothiazolyl disulfide with diphenylguanidine and $PhCMe_2O_2H$ is especially active in structure modification of the rubber. Rubber soln. in hydrocarbon solvent in the presence of $PhCMe_2O_2H$ and SO_2 forms a gel within 1 min. of introduction of SO_2; in absence of the peroxide the reaction does not proceed and 2-C_6H_4NHPh tends to retard the reaction.

G. M. Kavalerov



Oxidation-reduction systems for initiation of radical processes. VI. Systems with participation of oxygen for initiation of the process of oxidative destruction of polymers. E. I. Tinyakova, B. A. Dolgoplosk, and V. N. Reikh (High Polymer Inst., Acad. Sci. U.S.S.R., Leningrad). *Izvest. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* 1957, 1111-21; cf. *C.A.* 52, 1603g.—Com. butadiene rubber and butadiene-styrene rubber samples were used in a study of viscosity changes produced by O attack on the polymers in the presence of Fe(III) naphthenate, with and without 2-C_6H_7-NHPh, with org. addends such as PhNHNH$_2$, $(PhNH)_2$, di-Et dihydroxymaleate, benzoin, di-*tert*-butylhydroquinone, trichlorothiophenol, or mercaptobenzothiazole. Kinetic curves for the oxidation of the polymers and those for the action of H_2O_2 on the rubber polymers are shown for the indicated examples. It was shown that in hydrocarbon media these reduction-oxidation systems can be used for effective initiation of radical chain destruction of polymers at room temp.

G. M. Kosolapoff

Distr: 4E4j/4E3d/4E2c(FYI)

TINYAKOVA, Ye. I.

DOLGOPLOSK, B.A., professor; TINYAKOVA, Ye.I., kandidat tekhnicheskikh nauk.

Basic types of oxidation-reduction systems for the initiation of radical processes in aqueous and hydrocarbon media and the mechanism of their reaction. Khim. nauka i prom. 2 no.3:280-298 '57.
(Oxidation-reduction reaction) (MLRA 10:8)
(Polymerization) (Radicals (Chemistry))

Tinyakova, Ye. I.

TINYAKOVA, Ye.I.; DOLGOPLOSK, B.A.; REYKH, V.N.

Redox systems for initiating radical processes. Report No.6: Systems with participation of oxygen for initiating the process of oxidation destruction of polymers. Izv. AN SSSR. Otd. khim. nauk no.9:1111-1121 S '57. (MIRA 10:12)

1. Institut vysokomolekulyarnykh soyedineniy AN SSSR.
(Oxidation--Reduction reaction) (Polymers)

DOLGOPLOSK, B.A.; TINYAKOVA, Ye.I.; REYKH, V.N.; ZHURAVLEVA, T.G.; BELONOVSKAYA, G.P.

Carboxyl-containing rubbers. Part 1: Synthesis of carboxyl-containing rubbers and the study of the structure of polymers and vulcanized rubber. Kauch. i rez. 16 no.3:11-14 Mr '57. (MIRA 12:3)

1.Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo Kauchuka.

(Rubber, Synthetic) (Carboxyl group) (Polymers)

DOLGOPLOSK, B.A.; REYKH, V.N.; TINYAKOVA, Ye.I.; KALAUS, A.Ye.; KORYUSHENKO, Z.A.; SLADKEVICH, Ye.G.

Carboxyl-containing rubbers. Report no. 2: Basic qualities of vulcanizates from carboxyl-containing rubbers. Kauch. i rez. 16 no.6:1-6 Je '57. (MIRA 10:10)

1.Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka im. S.V. Lebedeva.
(Rubber, Synthetic)
(Vulcanization)

TINYAKOVA, Ye. I.

AUTHORS: Dolgoplosk, B. A., Yerusalimskiy, B. L., 62-58-4-13/20
Tinyakova, Ye. I.

TITLE: Generation of Free Radicals in Solutions and Their Reactions in Model Systems (Generirovaniye svobodnykh radikalov v rastvorakh i ikh reaktsii v model'nykh sistemakh). Report of the Conference on Chemical Sciences of the AS USSR on October 30, 1957 (Doklad na sessii otdeleniya khimicheskikh nauk Akademii nauk SSSR, 30 oktyabrya 1957)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Khimicheskikh Nauk, 1958, Nr 4, pp. 469-481 (USSR)

ABSTRACT: The present paper gives the final results of the work of the authors with - in the field of oxidation - and reduction initiation of radical processes and the investigation of a number of reactions of free radicals. Corresponding to their action the oxidation and reduction systems are given in 3 groups (Ref. 1): To the first kind belong systems in which the reaction takes place between the reducing agent and the oxidizing agent

Card 1/3

Generation of Free Radicals in Solutions and Their Reactions in Model Systems. Report of the Conference on Chemical Sciences of the AS USSR on October 30, 1957

by forming a radical (see formulae 1,2,3). The detailed description of the first type (system with peroxides) follows. Also systems in which also metal salts with varying valence take part (as oxidising agents) also belong here. The systems of the second kind are of interest in theoretical and practical respects (second type). Among them is also a system which acts with hydroquinone taking part. This system was utilized industrially (initiation of polymerizations in emulsions) There is still a number of other systems in which the reactions take part between the oxidizing agent and the reducing agent by formation of 2 radicals. Those systems belong to the third kind which have a participation of the diazoamino compounds. 2. Systems with participation of ethylenediamine and polyethylenepolyamine. 3. Systems with participation of sulfur and oxygen (as oxidising agents). After classification of the systems according to their mechanisms the report deals with the different reactions of alkyl- and heteroradicals with various mo-

Card 2/3

Generation of Free Radicals in Solutions and Their Reactions in Model Systems. Report of the Conference on Chemical Sciences of the AS USSR on October 30, 1957

nomers and polymers on which occasion a break of the bonds C-H, C=C, C - C and S - S is formed. Finally the part played by the cell in the heat stability of polymers was investigated. There are 2 tables and 44 references, 40 of which are Soviet.

ASSOCIATION: Institut vysokomolekulyarnykh soyedineniy Akademii nauk SSSR (Institute for High-Molecular Compounds, AS USSR)

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1. Chemical conference--Report . 2. Free radicals--Solutions--Reactions 3. Free radicals--Solutions--Generation

Card 3/3

AUTHORS: Tinyakova, Ye., I., Bogomol'nyy, V.Ya., 307/62-5-9-12/26
~~Zhuravleva, T.G.~~

TITLE: Reactions of the Triazenes With Dienols and Acids in Anhydrous Hydrocarbon Media (Reaktsii triazenov s dienolami i kislotami v uglevodorodnykh bezvodnykh sredakh)

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1958, Nr 9, pp 1094 - 1098 (USSR)

ABSTRACT: It has already been found that the decomposition of aliphatic-aromatic triazenes in anhydrous media is accelerated by the catalytic effect of dienols and acids or acid-containing substances. The decomposition of triazenes can also be definitely accelerated in anhydrous hydrocarbon media in the presence of acids. This reaction is not a catalytic one, since esters form during the reaction (Refs 2,3). The authors were interested in the application of this reaction to the quantitative determination of carboxyl groups in organic compounds. They considered the investigation of the reaction between the triazenes and dienols in anhydrous media of still greater importance because of the possible use of this reaction

Card 1/2

Reactions of the Triazenes With Dienols and Acids in Anhydrous Hydrocarbon Media

SOV/62-58-9-1 /26

in the alkylation or arylation of dienol groups. It was found that in anhydrous hydrocarbon media dioxymaleic acid and its diethyl ester and ascorbic acid accelerate the decomposition of the triazenes. The reaction is accompanied by the formation of nitrogen and the alkylation (or arylation) of the carboxyl and dienol groups. The authors found that the decomposition reaction of triazenes under the effect of acids can be used for the volumetric quantitative determination of carboxyl groups (especially in polymers) in anhydrous hydrocarbon media. There are 2 figures, 3 tables, and 8 references, 4 of which are Soviet.

ASSOCIATION: Institut vysokomolekulyarnykh soyedineniy Akademii nauk SSSR (Institute of High Molecular Compounds, AS USSR)

SUBMITTED: January 30, 1957

Card 2/2

AUTHORS: Tinyakova, Ye. I., Karavnikova, Ye. K., SOV/79-28-12-24/41
Dolgoplosk, B. A.

TITLE: On the Effective Mechanism of the Accelerators in the Process of Sulfur Vulcanization (O mekhanizme deystviya uskoriteley protsessa sernoy vulkanizatsii)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol 28, Nr 12, pp 3269-3274 (USSR)

ABSTRACT: To explain the effective mechanism of the accelerators in the vulcanization it was necessary to investigate the composition of the products formed in the reaction with sulfur in various solvents, and to compare them to the composition of the decomposition products of H_2S_2 in the same solvents. For this reason, the reaction of monoethanol amine, ethylene diamine and fructose with sulfur in the pentenes-1 and -2, in cyclohexane, isoprene, α-methyl styrene, styrene, ethyl benzene, and in rubber solution at 130-160° was investigated. This process was characterized according to the formation of H_2S. In the case of the reaction of monoethanol amine with sulfur in the pentenes-1 and -2 all main reaction products were separated

Card 1/3

On the Effective Mechanism of the Accelerators in the Process of Sulfur Vulcanization

and characterized. In table 1 the data are mentioned which characterize the formation of H_2S in the reaction of sulfur with the vulcanization accelerators, as well as in the decomposition of H_2S_2 in various solvents. In table 2 the experimental results of the composition of the reaction products of sulfur with monoethanol amine in the solution of pentenes-1 and -2 are mentioned together with the results of the experiments on the decomposition of H_2S_2, which are given for the purpose of comparison. It was shown that the reaction of sulfur with various reducing agents which occur in the sulfur vulcanization as accelerators takes place by way of an intermediate stage of H_2S_2 under the formation of $S^\cdot$ and $S_2^\cdot$. Based on the investigation of the composition of the products formed in the reaction of sulfur with the vulcanization accelerators and in the decomposition of H_2S_2 in α - and β -olefins, a more detailed information on the mechanism of the occurring sulfur formations in the vulcanization process is obtained, and the part is

On the Effective Mechanism of the Accelerators in the Process of Sulfur Vulcanization

SOV/79-28-12-24/41

detected which is played by the accelerators therein. It was shown that the outer double bonds are much more reactive in the reaction with the radicals HS· and HS_2· than the inner ones. At temperatures up to 130° the radicals HS· do not separate hydrogen from the aliphatic hydrocarbon solvents. There are 2 tables and 13 references, 8 of which are Soviet.

ASSOCIATION: Institut vysokomolekulyarnykh soyedineniy Akademii nauk SSSR (Institute of High-Molecular Compounds, Academy of Sciences, USSR)

SUBMITTED: November 10, 1957

Card 3/3

Tinyakova, Ye. I.

PHASE I BOOK EXPLOITATION SOV

Akademiya nauk SSSR. Institut khimicheskoy fiziki

Okisleniye uglevodorodov v zhidkoy faze; sbornik statey (Oxidation of Hydrocarbons in the Liquid Phase; Collection of Articles) Moscow, Izd-vo AN SSSR, 1959. 334 p. Errata slip inserted. 2,200 copies printed.

Ed.: N. M. Emanuel', Corresponding Member, Academy of Sciences USSR; Ed. of Publishing House: K. M. Dyumayev; Tech. Ed.: I. F. Kuz'min.

PURPOSE: This collection of articles is intended for chemists interested in hydrocarbon oxidation reactions, particularly for those specializing in petroleum fuels.

COVERAGE: This collection of 35 articles represents the results of investigations over a period of several years on problems of hydrocarbon oxidation. The authors present their own theoretical and experimental data and also draw from current literature. No personalities are mentioned. References accompany most of the articles.

Bafikov, S.R., and B.V. Suvorov [Institut khimicheskikh nauk Akademii nauk Kazakhskoy SSR (Institute of Chemistry, Academy of Science Kazakhskaya SSR)]. Mechanism of the Action of Inhibitors on Oxidation by Molecular Oxygen 94

The authors show that oxidation inhibitors are not effective when they oxidize faster than the compounds being oxidized. Optimum inhibiting effect occurs in the initial reaction stages when the concentrations of inhibitors are comparable with concentrations of free radicals and peroxides.

Berezin, I.V., L.G. Berezkina, and T. A. Kosova [Moscow State University imeni M.V. Lomonosov]. Using the Tagged-Atom Method to Study Intermediate Reactions of Fatty Acids and Esters in the Liquid-Phase Oxidation of Paraffin 101

The authors have synthesized n-decane and stearic acids with the carboxyl radicals tagged with C^{14}. It is shown that the main portion of esters formed during paraffin oxidation are not products of direct esterification of acids by the alcohols formed during oxidation, but are formed by the decomposition and regrouping of free radicals from ketone α-hydroperoxides.

Shlyapintokh, V.Ya., and N.M. Emanuel' [Institute of Chemical Physics]. Mechanism of the Optical Sensitization of Liquid-Phase Oxidation by Molecular Oxydation of 2, 7-Dimethyloctane 113

The combined effects of photochemical activation and the catalytic action of polyvalent metal (Cu^{2+} and Fe^{3+}) stereates on the oxidation of 2,7-dimethyloctane are investigated. Additions of metal salts play the role of photoinitiators. The authors detect reaction acceleration caused by the photolysis of Cu^{2+} and Fe^{3+} stereates, and confirm the formation of free radicals which cause this acceleration.

Tinyakova, Ye.I., E.A. Dolgoplosk, and V.N. Reykh [Institut vysokomolekulyarnykh soyedineniy AN SSSR (Institute of High Molecular Compounds, Academy of Sciences USSR; Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka (All-Union Scientific Research Institute of Synthetic Rubber)]. Oxidation-Reduction Systems for Initiating Oxidation Processes in Hydrocarbon Media and the Mechanism of Their Action 117

The authors show that oxidation-reduction systems, widely used for initiating low-temperature polymerization processes, can be successfully employed for initiating oxidation reactions. The role of polyvalent metal salts in the decomposition of peroxides and the oxidation of hydrocarbons is discussed.

Blyumberg, E.A., Z.K. Mayzus, and N.M. Emanuel' [Institute of Chemical Physics]. Liquid-Phase Oxidation of n-Butane at Near-Critical Temperatures and Pressures 125

The authors discuss the kinetics and chemistry of a purportedly new method for liquid-phase oxidation of n-butane. Initiating the reaction with NO_2 and catalyzing with $CoSt_2$ resulted in a shorter induction period by increasing the initial rate of chain growth. Acetic acid and methyl ethylketone are the principal products of the reaction.

Mayzus, Z.K., L.G. Privalova, and N.M. Emanuel' [Institute of Chemical Physics]. Change in the Mechanism of n-Decane Oxidation in the Course of the Reaction 152

The authors have used C^{14} tagged n-decane to investigate changes in the rates of formation and consumption of n-decyl hydroperoxides during the oxidation of n-decane. The hypothesis that variations in the activities of radicals carrying on chain reactions are proportional to the accumulation of oxygen-containing oxidation products in the ...ture is offered ... explanation of the

SOV/79-29-4-50/77

5(3)

AUTHORS: Tinyakova, Ye. I., Zhuravleva, T. G.

TITLE: On the Decomposition Mechanism of Isopropylbenzene Hydrogen Peroxide Under the Influence of Salts of Metals of Variable Valencies (O mekhanizme raspada gidroperekisi izopropilbenzola pod vliyaniyem soley metallov peremennoy valentnosti)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 4, pp 1262-1269 (USSR)

ABSTRACT: The study of the effect of these salts on the decomposition of hydrogen peroxides is of great importance on account of the role played by them in the oxidation, polymerization, and other radical processes. It is known that salts of this kind in their lower oxide- and oxide forms accelerate the decomposition of hydrogen peroxide catalytically. The decomposition of hydrogen peroxides in aqueous solutions below 50°, and in hydrocarbon solutions below $90\text{-}100^{\circ}$ takes place only under the influence of ferrous salts, hydrogen peroxide and salts Fe^{2+} being consumed in equivalent quantities. In hydrocarbon solutions the catalytic splitting of hydrogen peroxide under the influence of small amounts of ferric salts takes place only at 100° and up, while the reaction takes place instantly even at

On the Decomposition Mechanism of Isopropylbenzene Hydrogen Peroxide Under the Influence of Salts of Metals of Variable Valencies

-70° if the ferrous salt is used (Ref 1). The decomposition of hydrogen peroxides is also accelerated by the salts of other metals, e.g. by the naphthenates of Co, Cu, Pd, Mn, Pb, Ag, Cr, Ni, and Fe; the activity of the metals drops in that series from Co to Fe. For the mechanism of the effect of these metals the following scheme has been suggested (Ref 1):

$$ROOH + Me^{n} \longrightarrow RO\cdot + Me^{n+1} + HO^{-} \quad (1)$$

$$ROOH + Me^{n+1} \longrightarrow ROO\cdot + Me^{n} + H^{+} \quad (2)$$

Hydrogen peroxide thus plays the part alternatively of an oxidizing and reducing agent. This has, however, not yet been proved by experiments. In the present paper the experimental data regarding the decomposition of isopropylbenzene hydrogen peroxide in the presence of the naphthenates of the metals Mn, Cu, Co, and Pd in various solvents are given. The results confirm the validity of the suggested scheme. Tables and figures illustrate these results. There are 3 figures, 2 tables, and 17 references, 4 of which are Soviet.

SOV/79-29-4-50/77

On the Decomposition Mechanism of Isopropylbenzene Hydrogen Peroxide Under the Influence of Salts of Metals of Variable Valencies

ASSOCIATION: Institut vysokomolekulyarnykh soyedineniy Akademii nauk SSSR (Institute of High Molecular Weight Compounds of the Academy of Sciences USSR)

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Card 3/3